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ABSTRACT

This paper describes the model and process developed by the Connecticut education department to assist schools in improving their effectiveness. The report offers an operational definition of the term "effectiveness" and summarizes the research that provides the conceptual base for the model. The characteristics selected from this summary are discussed in terms of a systems perspective that advocates the school as the unit of analysis. The systems approach argues that schools should resist focusing on only one characteristic and that meaningful change must address instruction, curriculum, organizational dynamics, and community involvement in an integrated manner. The model is built upon suggestions from a 1978 Rand document by Berman and McLaughlin that summarizes why some 293 projects receiving federal funds in 18 states varied in their degree of successful implementation. The Connecticut process maintains a voluntary, school-based approach that helps the school examine itself introspectively in relation to effectiveness characteristics so that a meaningful action plan for the principal and faculty can be developed and implemented. To trace progress, data will be gathered from approximately 25 schools at one-year intervals. The goal is to produce change in student achievement patterns by the second year of implementation. The document concludes with a discussion of future directions. A list of 53 references and a diagram of the model and process are appended. (CJH)

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Monograph Number One

Instructionally Effective Schools: A Model and a Process

By

William J. Gauthier, Jr.

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Connecticut Perspectives on

INSTRUCTIONALLY EFFECTIVE SCHOOLS: A MODEL AND A PROCESS

By

William J. Gauthier, Jr., Ph.D.

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Schools can and do make a difference in the achievement of children. Despite public skepticism that prevails concerning the quality of public education, we are now at a significant turning point. We can identify schools in urban areas where poor children are performing at grade level. Furthermore, we know the characteristics that differentiate these schools from their less-productive counterparts. In Connecticut we have specific methods for helping any school carry out an introspective self-analysis to determine the extent to which the school displays those characteristics that have been shown to be coincident with substantive achievement by students. We can help schools also to develop action plans which focus on improving student achievement and can assist the principals and faculties of these schools to locate affordable resources and people in the state to help them implement their action plans. A number of schools have been involved in this process for about a year and the testimony of the principals and faculty members of these schools provides initial evidence that our combined efforts are beginning to make an impact. We also state unequivocally that the same characteristics that will help urban schools function will help suburban schools flourish.

This paper describes the model and process being used by the Connecticut State Department of Education to assist schools in improving their effectiveness. It offers an operational definition of the term "effectiveness" and summarizes the research that provides the conceptual base for the model. The characteristics selected from this research are delineated and discussed in terms of a systems perspective that advocates the school as the unit of analysis. The process for implementing the model which is predicated on valid change theory is described. Finally, future directions and concerns are offered.

Cause for optimism

An emerging message in American education maintains that schools can help all children achieve mastery in basic skills. Such thinking represents a significant departure from that espoused by many during the 1970s which argued that achievement was determined to a considerable extent by a child's race, level of wealth and home background. The statistical correlation studies that emerged from the Coleman Report (Coleman, et al 1966) and the subsequent re-analysis and confirmation of that data by Moynihan and Mosteller (1972) along with a third study conducted by Jencks, et al (1972) maintained that schools cannot overcome social inequality. Jensen (1969) concluded that schools could not be expected to do much more than they were doing for poor children. Such research had a pernicious effect on public confidence in American public education.

Efforts aimed at helping school principals and faculties increase their effectiveness in raising achievement levels of children

represent a trend away from the conventional wisdom described above, which indicated that a child's family background and economic status are principal determinants of how well we may expect that child to do in school. Most practicing educators have never fully accepted the contentions of Coleman, Moynihan, Mosteller, Jencks and Jensen but the American public and often those who shape policy have treated their polemics as gospel and have accepted rather low statistical correlations as causal indicants of pupil performance. However, an emerging and antithetical body of research substantiates what perceptive administrators and teachers have long maintained--schools do make a difference and Jenck's statement (1972) that "We see no evidence that either school administrators or educational experts know how to raise test scores," simply is not valid.

Definition of an effective school

The definition of an effective school is quite explicit. It is a school that brings children from low-income families to the minimum basic skills mastery level which now describes the minimally successful performance for middle-income children. Based on Edmonds' definition (1979) the school is effective if, and only if, the proportion of low-income children obtaining mastery is the same as the proportion of middle-income children obtaining mastery.

Mastery is defined as competence in those skills necessary to move on to the next grade level. Schools in which only nonpoor children achieve mastery are categorized as differentially effective and, of course, schools where very few children achieve mastery are classified as ineffective. Based on our experience to date we can maintain that Connecticut schools, like most organizations and most people, rest somewhere on a continuum of effectiveness. That is, they are quite effective in some areas but less in others.

Some will argue that focusing only on the acquisition of basic skills in the areas of reading, writing and mathematics constitutes a limited definition of schooling and that quality education goes far beyond this restricted view. We agree but we emphasize that the acquisition of basic skills is a necessary and predicating condition for learning in other areas. As Mann (1980) stresses, "Some things are quintessential, and . . . reading is prior." Furthermore, schools must deal with limited resources in terms of money, staff and time allocation; therefore, priorities must be determined for each school based on the needs of students.

It is also imperative to indicate that we do not maintain that we can completely close the achievement gap that exists between poor and nonpoor children although certainly this should be a long-term goal. We do contend that, as a school becomes more effective,

the achievement levels of all children (both poor and nonpoor) will improve. The critical concern is that each and every child will reach an appropriate level of mastery. Schools can diminish the variance in student achievement attributable to home background. Appropriate minimal mastery levels must be determined by each district and by each school and those levels must be realistic but educationally meaningful.

Research findings

The body of literature on which Connecticut's efforts rest draws from research on teacher effectiveness and classroom instruction as well as from research which examines school effects; the process for implementing the research findings advocates a systems approach to school improvement and is firmly grounded in change theory.

The last decade has produced a significant and ever-growing conceptual base for delineating valid instruction. Instruction is defined here as the way one manipulates curriculum content to increase the probability that students will learn or, more simply, instruction is what teachers do in the classroom to help students achieve. The focus is on the classroom as the unit of analysis. The writings of Clark, Lotto and McCarthy (1980); Cooley and Leinhardt (1980); Fisher, et al (1980); Good (1979); Medley (1977); Rosenshine (1980); Rosenshine and Berliner (1978); and Stallings (1975), have been summarized well by Gerstein and Carnine (1981) who stress that effective teachers:

- cover large amounts of academic material, incrementally structured so that a good proportion of class time is spent in core areas of reading, arithmetic and language arts;
- use materials that are highly structured and that elicit a high proportion of correct student responses;
- conduct much of the instruction in small groups (as opposed to independent seat work), and
- provide immediate academic feedback to students.

In another pertinent review of effective classroom instruction, Cohen, et al (undated) summarized the research of Rosenshine (1976), Medley (1977) and Brophy (1979):

- the teacher keeps the students on academic tasks and the content coverage is extensive;
- the teacher's and workbook questions are highly structured, and elicit a high rate of correct answers for students;
- the teachers and materials provide immediate, academically oriented feedback, praising correct responses and exploring incorrect ones;
- instruction is provided to the whole class or in groups, and
- teachers monitor student performance during recitation sessions, and provide individualized feedback to students.

The summations above are sometimes subsumed under the aegis of direct instruction which ". . . maximizes the amount of time students have in a classroom to work on academic subjects and leads to increased academic performance particularly among low socioeconomic and minority youngsters (Goldberg, 1981)."

Mastery learning proponents (Carroll, 1963) have shown that by varying the time required to attain concepts nearly all children can achieve a 90 percent mastery level in any basic skills area. Thus we can demonstrate that all children, given appropriate time, help and motivation, can achieve relatively high levels of mastery.

While no one set of characteristics could be considered all inclusive, the studies summarized above do provide specific suggestions concerning teaching effectiveness and quality of instruction that have been validated by several large scale studies. We can state with assurance that direct instruction, mastery learning which subsumes the components of good classroom management, a highly structured curriculum, close monitoring of student progress, high teacher expectations, student opportunity to learn, time on task and immediate feedback all have a positive influence on student achievement. When one turns from the classroom to the school as the unit of analysis, several studies have produced characteristics that enhance basic skills achievement for minority and economically disadvantaged students. The researchers have attempted to locate urban schools where students were achieving higher than one would expect based on economic and family background.

Weber's early study (1971) scrutinized four minority schools having high reading achievement. The schools had strong principals who

set a positive tone and conveyed high expectations for students. In addition, the schools were structured and orderly and there was a strong focus on reading with constant evaluation of student progress. Brookover and Lezotte (1976) examined eight Michigan elementary schools, six of which reflected improving student achievement while two had declining student achievement based on scores from the Michigan Education Assessment Program of students in grades four and seven in the content areas of reading and mathematics. The researchers found that the improving schools had clear goals and objectives; that teachers were more apt to accept responsibility for teaching reading and mathematics skills (teachers in declining schools spent less time in direct reading instruction), and that the principal was more apt to be an instructional leader (Shoemaker and Fraser, 1981).

Edmonds and Fredericksen (1978) carried out research in 20 Detroit and five Lansing schools using achievement data and case analysis. The factors that were present in the effective schools included strong principal leadership; high expectations for children's performance; an orderly, purposeful learning climate; a high priority on basic skills acquisition, and frequent evaluation of pupil progress. Rutter, et al (1979) conducted a longitudinal study of 12 London secondary schools in which there was variance between schools when social background was held constant. The schools that were more effective reflected higher student performance on achievement tests, better student conduct, higher attendance ratios and lower delinquent behavior outside school. The effective schools utilized specific teaching strategies, maintained high expectations for students, provided a pleasant physical environment, had agreed upon standards of behavior, started lessons on time, did not end classes early and assigned homework. Students held more positions of responsibility and student work was displayed.

Rutter stresses that secondary schools function as self-contained organizations and tend to develop their own culture or ethos. The research implies that schools should be looked at as social organizations and that social and organizational characteristics shape education outcomes.

Comer (1980), by modifying social and psychological conditions in a New Haven, Connecticut school, was able to produce a more facilitative school climate and in turn influence student achievement scores. A heavy emphasis was placed on parent participation in the program and Comer stresses this as an important linkage that must be developed if schools are to become effective.

Edmonds (1979), Clark, Lotto and McCarthy (1980) and Mann (1980) have all summarized the literature dealing with school effects. From the initial studies and the reviews and suggestions offered by others, the Connecticut State Department of Education has selected

seven characteristics that emerge from the literature on teacher and classroom instruction and school effectiveness that appear to be correlated with student achievement. Certainly much remains to be done to develop an elegant research base but none of the definitions that follow fly in the face of common sense.

- **Safe and Orderly Environment.** There is an orderly, purposeful atmosphere which is free from the threat of physical harm. However, the atmosphere is not oppressive and is conducive to teaching and learning.

> Effective schools have an atmosphere that is orderly without being rigid, quiet without being oppressive, and generally conducive to the instructional mission. The climate is warm and responsive, emphasizes cognitive development, is innovating and provides a student support system.*

- **Clear School Mission.** There is a clearly articulated mission of the school through which the staff shares an understanding of and a commitment to instructional goals, priorities, assessment procedures and accountability.

> Effective schools make a conscious decision to become effective schools and that is their mission. A collegial decision and commitment is made to assure minimum mastery of basic school skills for all pupils. Pupil acquisition of basic school skills takes precedence over all other school activities and, when necessary, school energy and resources are diverted from other activities to achieve that end.*

- **Instructional Leadership.** The principal acts as the instructional leader who effectively communicates the mission of the school to the staff, parents and students and who understands and applies the characteristics of instructional effectiveness in the management of the instructional program of the school.

> Effective schools have principals who are, in fact, the instructional leaders of the staff. They are creative, bold, supportive and dedicated to the mission of the school. They are active and involved with all parts of their educational community.*

* The seven paragraphs following the definitions are taken from a brochure developed by the Ohio Department of Education.

- **High Expectations.** The school displays a climate of expectation in which the staff believes and demonstrates that students can attain mastery of basic skills and that staff members have the capability to help students achieve such mastery.

> Effective schools expect teachers to teach and pupils to learn. Standards are high but realistic. No student is allowed to attain less than minimum mastery of the basic skills at the assigned level. The teachers believe they have the ability to provide the required instructional program and that all students can master the basic skills they teach.*

- **Opportunity to Learn and Student Time on Task.** Teachers allocate a significant amount of classroom time to instruction in basic skills areas. For a high percentage of that allocated time students are engaged in planned learning activities.

> Effective schools emphasize more time on task. The more time spent in instruction, the greater the learning that takes place. Implications exist for improved use of time, individualized instruction and curriculum content.*

- **Frequent Monitoring of Student Progress.** Feedback on student academic progress is obtained frequently. Multiple assessment methods such as teacher-made tests, samples of student work, mastery skills checklists, criterion-referenced tests and norm-referenced tests are used. The results of testing are used to improve individual student performance and also to improve the instructional program.

> Effective schools have teachers and principals who are constantly aware of pupil progress in relationship to the instructional objectives. Frequent monitoring of pupil progress may be as traditional as classroom testing on the day's lesson or as advanced as criterion-referenced system-wide standardized testing measures.*

- **Home-School Relations.** Parents understand and support the basic mission of the school and are made to feel that they have an important role in achieving this mission.

> Effective schools have broad support. Parents influence their children in a number of ways: through their expectations for the children, through their own involvement, and through direct instruction.*

The model

These characteristics do not exist as independent entities. It is imperative that they be examined as part of the organizational framework of the school. (See Figure 1.) To do this, one must view the school as a complex social system with many interacting components that operate together to influence student achievement. This perspective has been advocated by a number of well-known writers in the area of educational administration (Zaltman, 1977, Cartwright, 1965, Banghart, 1979). The ethos produced by these characteristics working in harmony is greater than the sum of their parts. Any intervention process must take into account the complexity of their interaction in a school setting. Addressing only one of them will result in little substantial improvement.

Schools have the responsibility for assuring that all pupils acquire mastery. Probably the quickest and most powerful way to influence student achievement is to deal with those variables that are most proximate to the instructional setting and the critical transaction that takes place between teacher and student when instruction occurs. This suggests that one would focus on those elements of Figure 1 listed under instruction and would attempt to modify teacher expectations, improve classroom management, monitor student progress at the classroom level, provide increased opportunity to learn, increase time on task and employ the elements of mastery learning and direct instruction.

Furthermore, it appears obvious that teachers must teach from a planned, ongoing, systematic curriculum that reflects excellence. Good instruction cannot compensate for a weak curriculum; conversely, a good curriculum can be negated by weak instruction.

Yet, too often, we focus on classrooms as the unit of analysis when trying to bring about school improvement but neglect the total school as the organizational context that must support classroom activities. Thus effects achieved by working with individual teachers or small groups within a school are short-lived. Teachers who are trying to implement innovations may have little support or understanding from the principal and other staff members so they feel frustrated and give up their efforts.

Meaningful change must involve the whole school. The principal and a critical mass of the faculty must be involved and the organizational variables such as strong instructional leadership, safe and orderly environment, sense of mission (including clear, specific goals and objectives) and a systematic, schoolwide assessment of student progress must operate in a well-managed, coordinated way to bring about long-term school change.

Obviously, community involvement is critical. The parents and public must be aware of, understand and support the attempts to make the school more effective. They should, moreover, help in determining the school's overall goals.

The model described above emphasizes a systems approach to improving school effectiveness. It argues that schools should resist focusing on only one characteristic and that meaningful change must address instruction, curriculum, organizational dynamics and community involvement in an integrated way. There is simply no quick fix for improving schools. The process involves a long, challenging undertaking that will now be described.

The process of improvement

Most improvement efforts in education fail because of adoptive rather than substantive reasons (Charters, 1973). Often it is not so much a matter of knowing what to do as it is knowing how to do it. Change efforts fail if principals do not understand and support them, if faculties do not view them as relevant to their own goals and needs and if the community and central office do not provide ongoing encouragement, support and resources.

A recent Rand document (Berman and McLaughlin, 1978) summarizes the reasons that some 293 projects funded by federal funds in 18 different states varied in the degree to which they were successfully implemented. In summarizing, the authors cite eight factors.

1) What the project is (e.g., the model) matters less than how it is implemented.

2) More expensive projects are no more likely than less expensive projects to be successful.

3) Teachers must clearly understand the project's goals and precepts; such clarity comes during implementation.

4) Projects aiming at significant educational change cannot be implemented across a whole school system at once.

5) Decisions concerning the implementation strategies of how to put the project into operation must be made at the local level. The project must be adapted to the realities of the institutional setting.

6) The elements of the school's organizational climate powerfully affect the project's implementation and continuation.

7) The principal must sanction and support the project. He is the "gatekeeper" of change.

8) There must be constant help and support from central office officials and special staff.

Building on the Rand suggestions, the Connecticut process advocates a voluntary, school-based approach that helps the school examine itself introspectively in relation to school effectiveness characteristics and develop and implement an action plan that is meaningful to the faculty and principal of that school. These efforts must be strongly supported by central office personnel but the autonomy of the principal and faculty members must be protected. The steps follow.

• **Initial Contact.** A facilitator from the State Department of Education or a regional educational service center is designated as the person who will provide assistance to the project. The initial contact is made with the superintendent of schools and a meeting takes place. The research background, the model and the process for working with specific schools in the district are described. There is an emphasis that the school effectiveness project will not solve personnel problems in schools. The concept of reciprocity is discussed in that state department staff and personnel from regional service centers and local districts will give time and effort during the project; in turn, the superintendent must agree to provide in-kind help to other districts in the future. For instance, if one school's staff becomes expert in time on task, the state would expect those staff members to help train personnel in other schools at some time in the future. The superintendent must agree to support a central office person as project coordinator. This person will provide a direct link to the superintendent and to the board of education. An assurance is sought that the decision to come into the project will be made by the principal and faculty of each school. The superintendent must also agree to provide fiscal support to pay for consultants that the school may need to carry out its action plan.

• **Dialogue and Commitment.** If the above conditions are agreed to, the facilitator then visits with a principal whom the superintendent has recommended. The project is discussed in detail and the facilitator stresses the importance of the principal in its eventual success or failure. The facilitator indicates that this is an opportunity for the principal and faculty to carry out a self-analysis of their school. The assessment team will help them collect information but extrapolations from the data must be made by principal and staff. The final action must be theirs. The fact that this is a long-term project is discussed; at the end of the exchange, the principal decides whether or not to recommend to the faculty that the

school enter the project. If the principal wishes to proceed, the facilitator or the principal makes a presentation to the entire faculty and indicates that the decision to participate in the school effectiveness project is up to them. Concerns of faculty members are dealt with at this meeting. During the week following the presentation, the facilitator is available to talk with individual faculty members. At some point, the principal and a significant number of the faculty must commit themselves to going forward. This information is forwarded to the facilitator by the principal and the team is ready to proceed with the school assessment.

- **Assessment.** The assessment takes place over a two-to-three-day period. Half the faculty is interviewed using *The Connecticut School Effectiveness Interview* (Villanova, et al 1981), a 67-item structured interview that probes the seven school effectiveness characteristics. The other half of the faculty responds to *The Connecticut School Effectiveness Questionnaire* (Villanova, et al 1981), a 100-item instrument that parallels the structured interview. Achievement data are gathered and analyzed by student economic class subset. Archival data, such as mastery skills checklists, report cards, and student handbooks, are also obtained. These data are then integrated to provide a school profile but no generalizations about the effectiveness of the school are drawn. The data are shared first with the school principal and strategies are developed for presentation to the faculty. A faculty meeting is then held at which time the teachers provide initial reactions and further input to the principal and five members of an action planning team that have been selected by either the principal or the faculty.

- **Developing the Action Plan.** The principal and the action planning team are taken to a site away from the school setting. Over a two-to-three-day period they analyze the data gathered during the assessment. The facilitator helps the school personnel analyze data from various sources and develop an action plan for improving school effectiveness.

- **Implementation.** The principal and the action planning team return to the school and present the action plan which deals with such areas of concern as time on task, monitoring of student progress or teacher expectations.

Some 25 schools in Connecticut have entered into the project. At one-year intervals further data will be gathered to trace progress regarding the success of their efforts. Based on the experience of the New York School Improvement Project, to which Connecticut is greatly indebted, the goal is to produce a change in student achievement patterns by the end of the second year of implementation. The facilitator will continue to assist the school as needed but, as principal and faculty exhibit the capacity to deal with their problems, the facilitator's role will be diminished.

Future Directions

While there is a substantial body of literature to support Connecticut's school effectiveness efforts, continuing research is needed to further substantiate the research base for effective schools. Assessment has been improved during the past year but much needs to be done in terms of psychometric properties of the school effectiveness interview and questionnaire. Procedures must be developed that will facilitate rapid, economical processing of data. Training sessions must be designated to train facilitators to work with schools and to carry out meaningful assessments. A series of monographs, describing the characteristics in detail, is being written. Resources and consultants who can provide districts with affordable, well-qualified assistance must continue to be developed. A network of principals of effective schools has been instituted; this group must be nurtured and encouraged. Another network of central office administrators who serve as project directors has only recently been initiated. Finally, strong support is needed from the State Board of Education, local boards, administrators, teacher organizations and the public in general if school effectiveness efforts are to succeed.

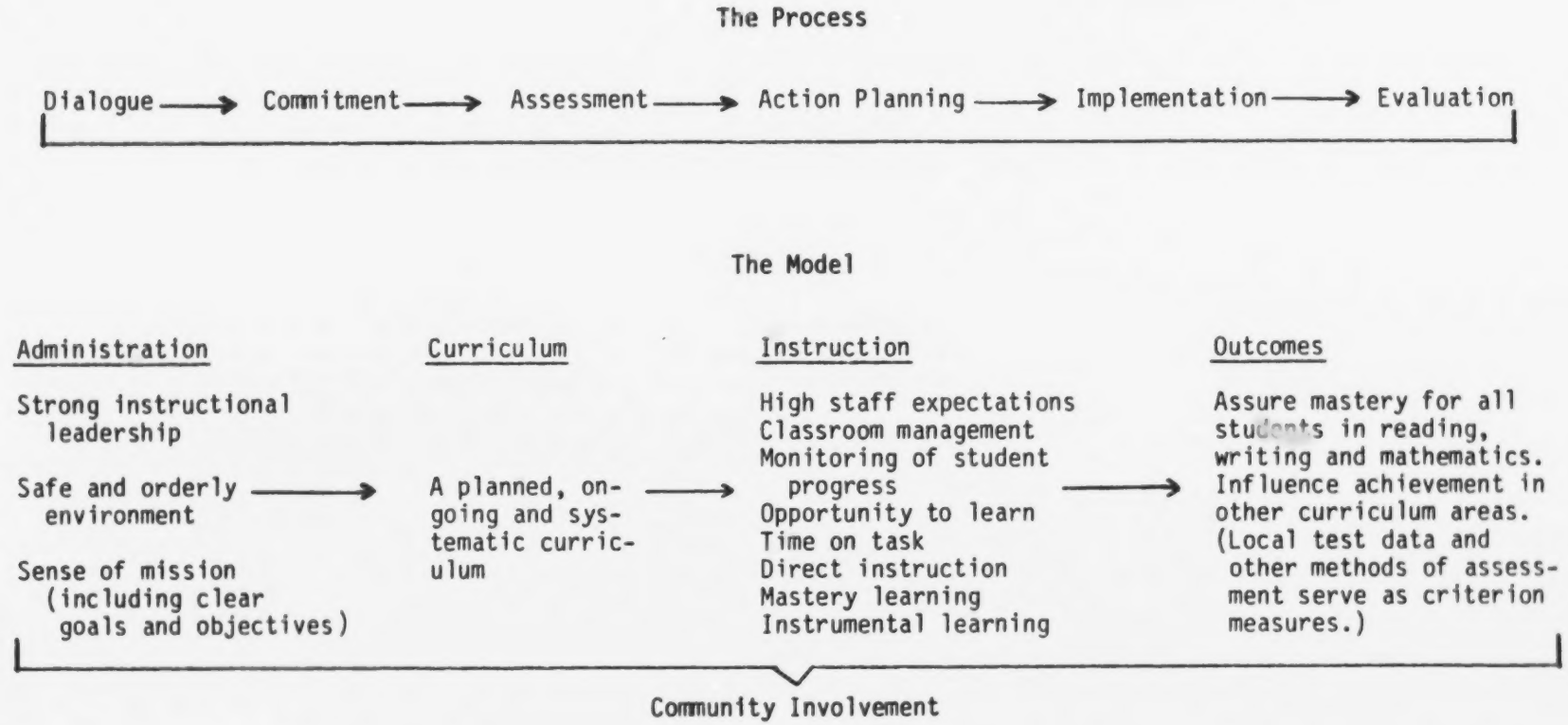

Figure 1
The Connecticut School
Effectiveness Project

The Connecticut School Effectiveness Project attempts to assure the acquisition of mastery in reading, writing and mathematics for all children by helping schools strengthen the characteristics, listed in the model, that contribute to such achievement. The process is voluntary. Principal and faculty are helped to examine certain characteristics coincident with student learning, develop an action plan and initiate long-term change aimed at modifying the characteristics in a school-based setting.

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